

# Underwood Conservation District

*Enhancing natural resources and stewardship in Skamania County and western Klickitat County*



*Welcome*  
*to UCD's Winter Workshop #3:*  
**Carbon Market Access for Forest  
Landowners**

Visit [www.ucdwa.org](http://www.ucdwa.org)  
to:

- Register for more winter workshops
- View a workshop you missed (including last year's!)
- Purchase from our Native Plant Sale, ending Feb. 28
- Find details about TreeFest and the day-of sale on Saturday, March 19, 2022
- Sign up for our e-newsletter

# Underwood Conservation District's **WINTER WORKSHOP SERIES**

December 2021 - March 2022

## **Conservation in Your Own Backyard**

TUESDAY, DECEMBER 14TH  
6-8PM

## **The Benefits of Beaver**

co-presented with Mid-  
Columbia Fisheries  
Enhancement Group

THURSDAY, JANUARY 20  
6-8PM

## **Carbon Market Access for Small Forest Landowners**

THURSDAY, FEBRUARY 17TH  
6-8PM

## **Farmland Succession Planning**

THURSDAY, MARCH 24TH  
6-8PM

All workshops are offered virtually via Zoom and require registration. Please visit the UCD website for more information and to register.

[www.ucdwa.org](http://www.ucdwa.org)

Underwood Conservation District | 509.493.1936



**Purchase on-line  
from our Native  
Plant Sale,  
ending Feb. 28**



**Find details  
about TreeFest  
and the day-of  
sale on Saturday,  
March 19**

# Plant for Success...

- Right Plant, Right Place.
- Plant in the Fall or early Spring, as soon as the ground is workable.
- Mulch your plants to suppress grass and retain soil moisture.

- Protect your seedlings from deer and elk browse.
- Irrigate, if possible, until plants are established (1-2 years).



# For Tonight's Zoom...



Please remain muted throughout the presentation.



Please raise your hand to speak and we will call on you.



Question? Audio/visual problems? Use the Chat box.



If you are having trouble with computer audio, you can also dial in using your telephone.

**...Thank You!**

***Sit back and relax...***

## **Tonight's Program**

- **6:00 pm: Welcome and Introduction**
- **6:05 pm: Brief overview of local forest resources**
- **6:10 pm: Carbon Market Access  
*presentation by Sandy Letzing with Forest Carbon Works***
- **7:00 pm: Q&A and Discussion**

Quick Poll...



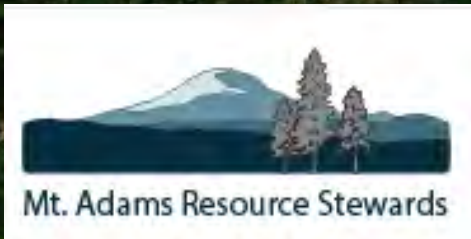
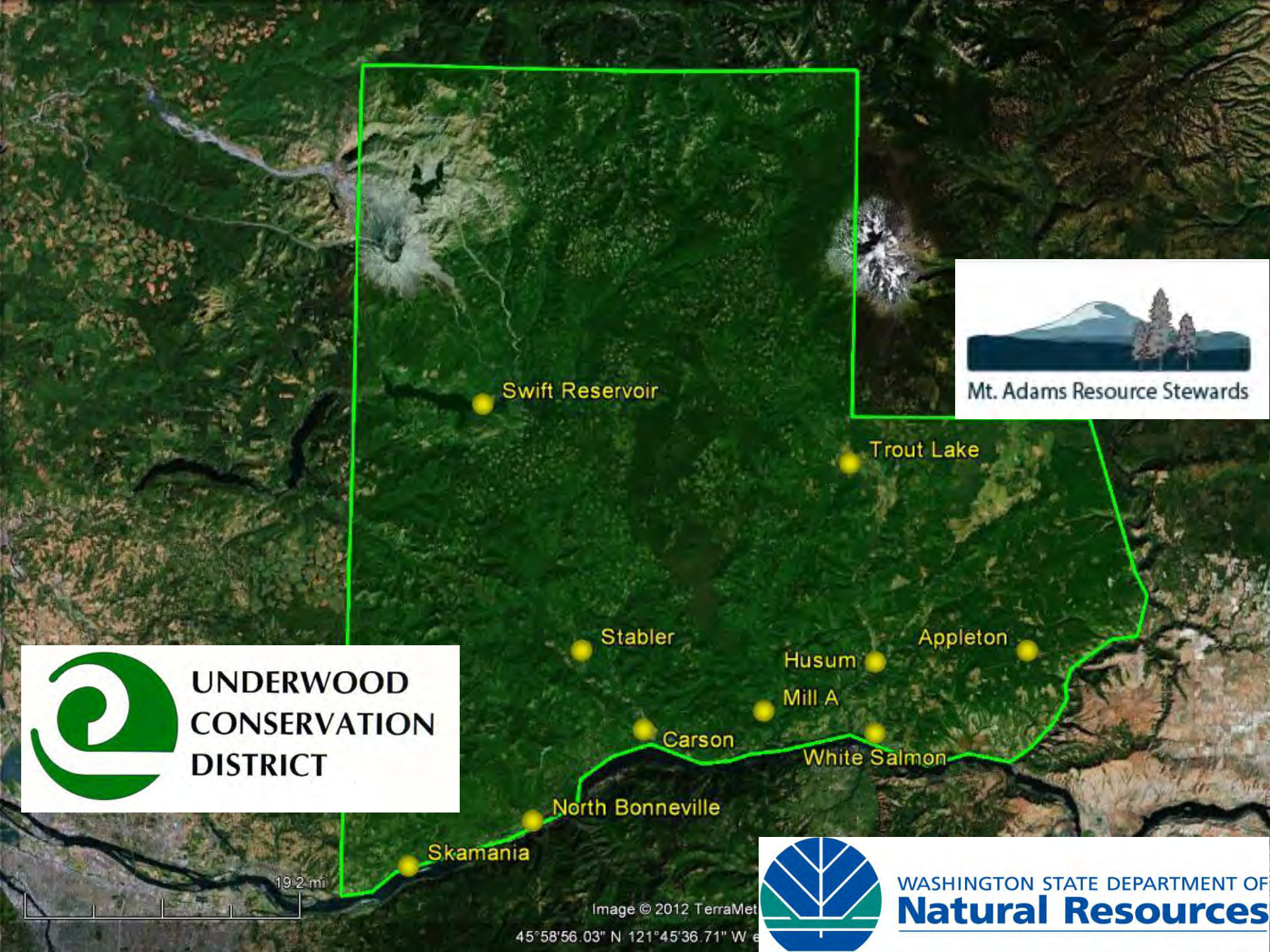
Our Mission: *to engage landowners and land users throughout Skamania and west Klickitat Counties in the voluntary conservation, enhancement, stewardship, and sustainable use of natural resources.*

## District Programs

- Educational Workshops, Seminars and Field Trips
- On-Site Technical Assistance, Conservation Planning, Project Development and Cost-Share to:
  - Small Farms
  - Livestock Owners
  - Family Forests
  - Streamside landowners
- Native Plant Sale and Annual TreeFest
- Invasive Weed Management
- Integrated Beneficial Insect/Pollinator Habitat
- Fish Habitat Restoration
- Fish Passage Inventories and Correction
- Irrigation Fish Screen Installation
- Water Quality and Flow Monitoring
- Livestock Best Management Practices
- Oak Woodland and Forest Management
- Firewise







Swift Reservoir

Trout Lake

Stabler

Husum  
Mill A

Appleton

Carson

White Salmon

North Bonneville

Skamania

19.2 mi

Image © 2012 TerraMet

45°58'56.03" N 121°45'36.71" W

# Local Forest Resources

## UCD –

- Home Hazard Assessments and site visits to determine wildfire risk and defensible space priorities;
- mobile chipping services and project support;
- small woodland assessments and other natural resource technical assistance;
- Annual tree sale and TreeFest.

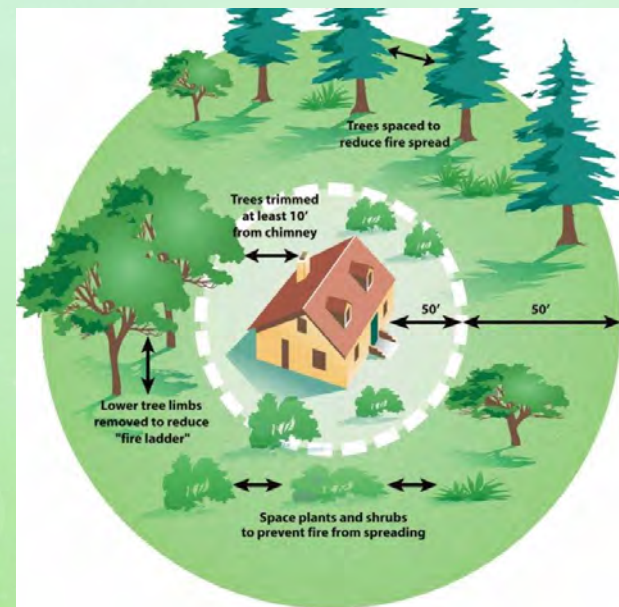
## DNR –

- site visits with service foresters;
- support for forest management planning and cost share funding.

## MARS –

- Working with communities and agencies to improve forest health across the landscape and foster a “stewardship economy”
- Stewardship crew available for forestry projects.

WA Farm Forestry Association, WSU Extension and NRCS (Goldendale or Vancouver)



## EASTERN WASHINGTON SERVICE FORESTRY COST-SHARE PROGRAM

**Improve your forest's health and  
reduce your risk of damage from  
wildfire, pests and disease.**



### THIS PUBLICATION CONTAINS:

- PROGRAM INFORMATION AND REQUIREMENTS
- LIST OF COST-SHARED PRACTICES
- CURRENT COST-SHARE RATES
- THE COST-SHARE APPLICATION FORM



WASHINGTON STATE  
DEPARTMENT OF NATURAL RESOURCES (DNR)  
cooperating with  
USDA FOREST SERVICE – STATE & PRIVATE FORESTRY

Revised 1/1/2022



# Forest Carbon Works

## Carbon Storage and Small Woodland Landowners

**Sandy Letzing**  
PNW Regional Forester



# Overview

*Image: [www.calebkenna.com](http://www.calebkenna.com)*

1. Why carbon storage?
2. Cap and Trade Market
3. Carbon Storage Opportunities and the PNW
4. Carbon Market Basics
5. Typical Barriers facing landowners
6. Intro to Forest Carbon Works
7. FAQs

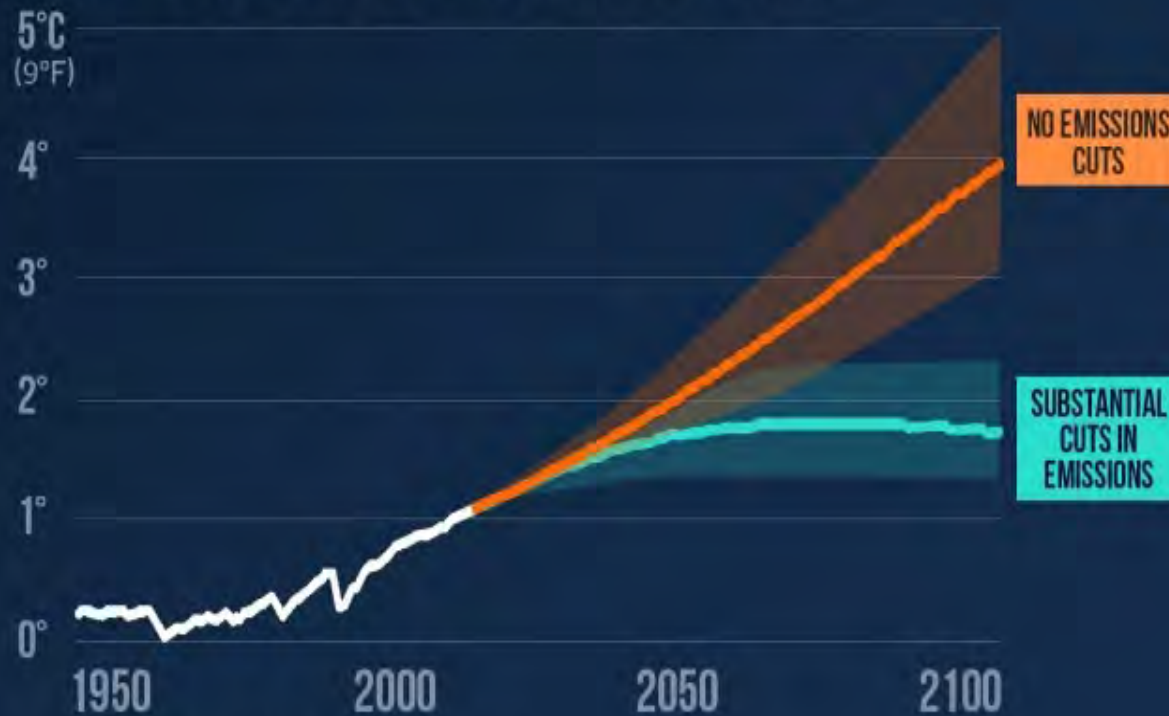




# Climate change

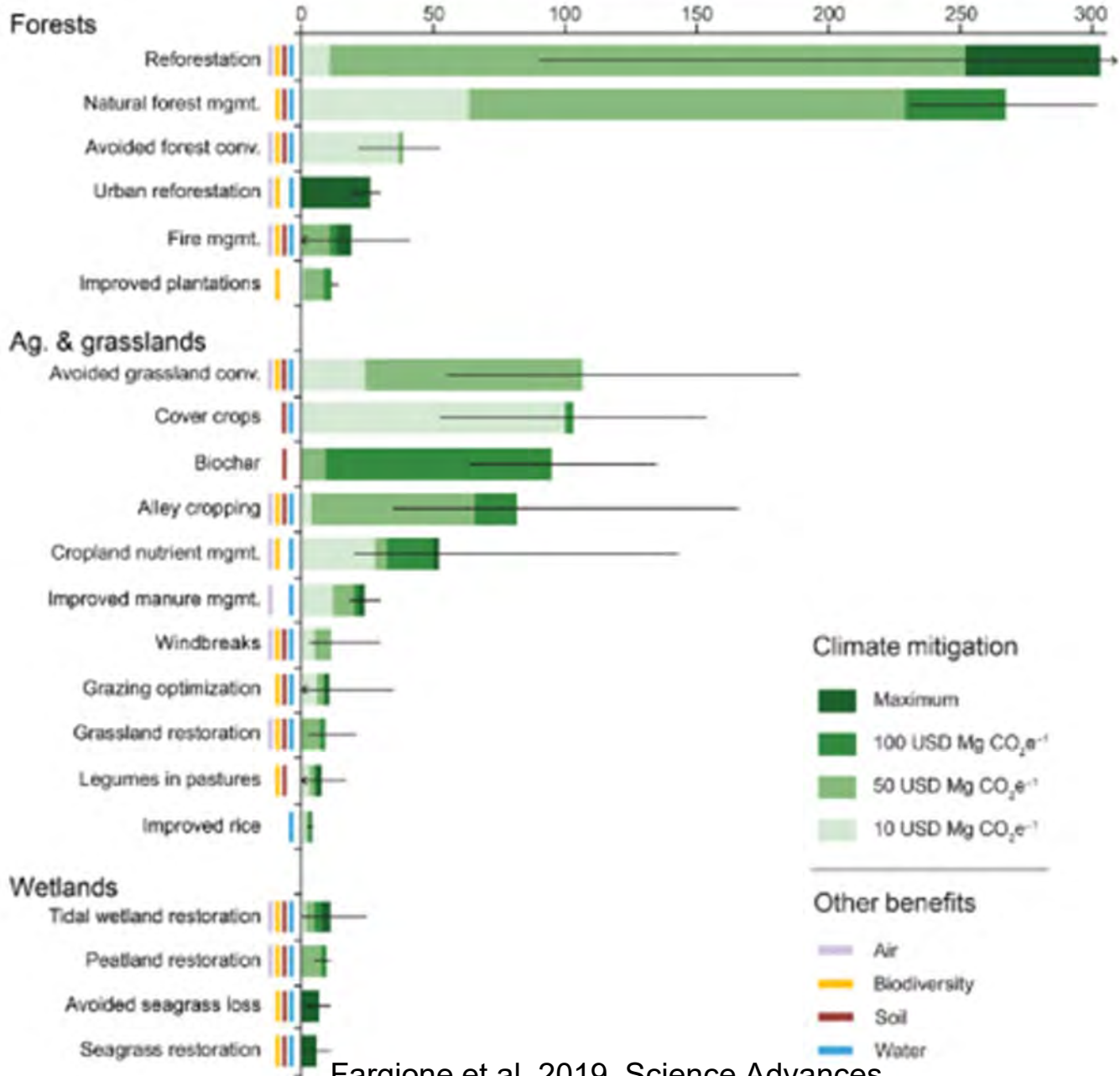
## FUTURE TEMPERATURES

WARMING DEPENDS ON CHOICES TODAY



Global surface temperature (°C) anomaly relative to 1850-1900  
High warming scenario; SSP3-7, Low warming scenario from SSP1-2.6.  
Source: IPCC AR6 WG1

# Climate mitigation potential in 2025 (Tg CO<sub>2</sub>e year<sup>-1</sup>)



# Carbon Markets - A Quick Review

## Compliance (Regulatory)

- Long-term (100 year minimum)
- Cap and trade emissions requirements
- Rigorous methodologies, verification, oversight
- Highest credit payments

## Voluntary

- Shorter term (20-40 years)
- Carbon-neutral “green”-based incentives
- Potentially less oversight and verification
- Lower payments





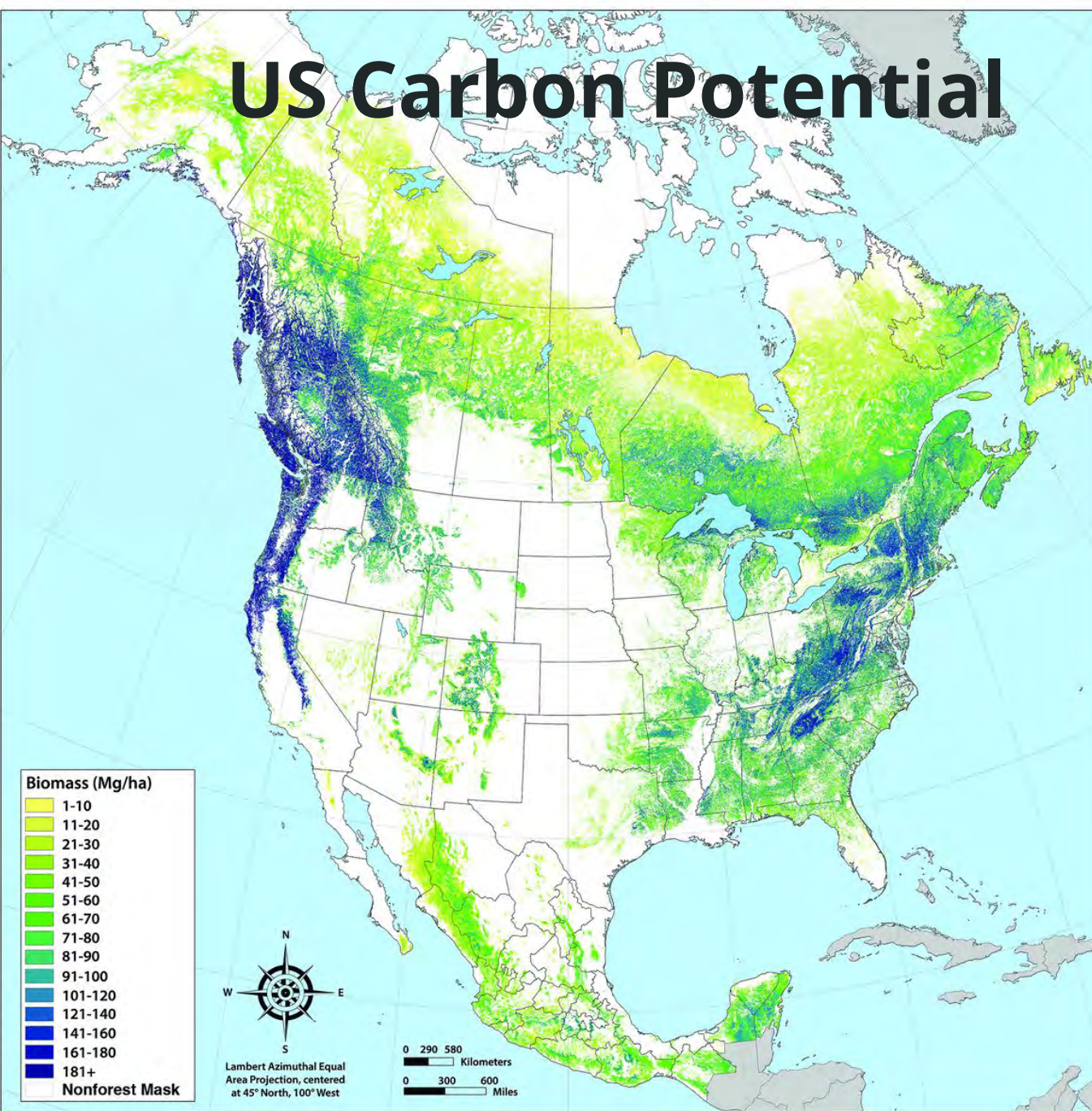
# Tool -> Offsets

Offset: A reduction in CO<sub>2</sub> emissions or an increase in sequestration to compensate for emissions elsewhere

Carbon offset credit is a transferable instrument certified by governments or independent certification bodies to represent an emission reduction of one metric ton of CO<sub>2</sub> (or an equivalent amount of other GHGs).

For forest landowners, those offset credits are made in the forest!

# US Carbon Potential



- U.S. forests cover over 741 million acres
- 39% is privately owned

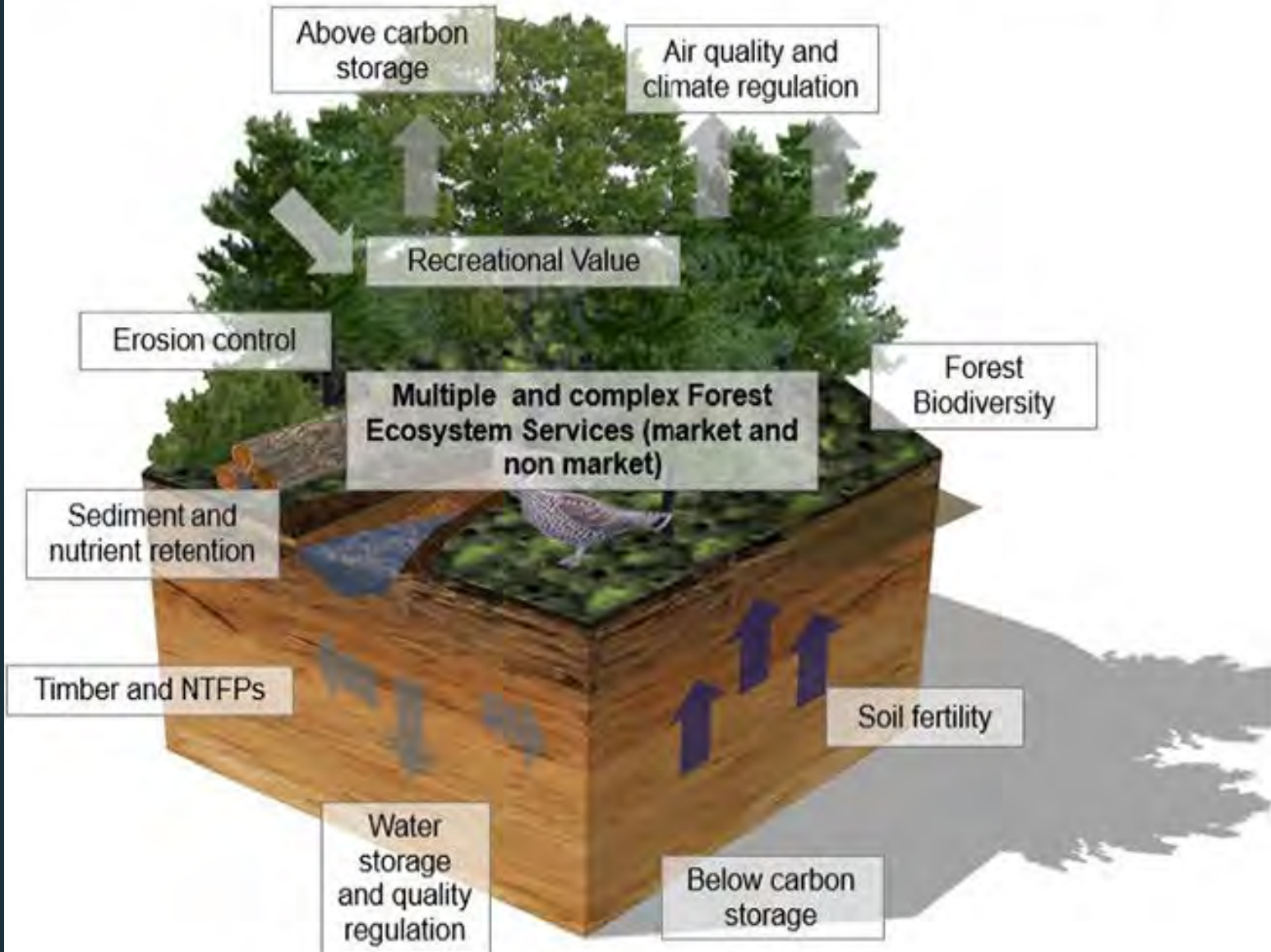
Kevin McCullough, U.S. Forest Service. North American Biomass and Disturbance Mapping Working Group, 2014

**Table 1.2: Western states' forest carbon sequestration and CO<sub>2</sub> fossil fuel emissions, in MMT CO<sub>2</sub>e.**

<b>Western state</b>	<b>Forest carbon sequestration mean 2010-17 (MMT CO<sub>2</sub>e)</b>	<b>Forest carbon sequestration as percent of U.S. total</b>	<b>2016 CO<sub>2</sub> emissions, fossil fuels (MMT CO<sub>2</sub>e)</b>	<b>2016 CO<sub>2</sub> emissions as percent of U.S. total</b>	<b>Forest carbon sequestration as percent of CO<sub>2</sub> emissions</b>
Arizona	- 7.6	- 1.3%	86.8	1.7%	-8.8%
<b>California</b>	13.7	2.4%	366.4	7.0%	3.7%
Colorado	- 6.2	- 1.1%	88.5	1.7%	-7.0%
Idaho	22.0	3.8%	18.4	0.4%	119.6%
Montana	13.8	2.4%	30.8	0.6%	44.8%
Nevada	- 0.5	- 0.1%	36.7	0.7%	-1.4%
New Mexico	11.8	2.1%	48.7	0.9%	24.2%
<b>Oregon</b>	<b>34.3</b>	<b>6.0%</b>	<b>37.9</b>	<b>0.7%</b>	<b>90.5%</b>
Utah	0.7	0.1%	58.5	1.1%	1.2%
<b>Washington</b>	<b>27.2</b>	<b>4.7%</b>	<b>81.1</b>	<b>1.6%</b>	<b>33.5%</b>
Wyoming	- 29.0	- 5.0%	60.7	1.2%	-47.8%
<b>Total – U.S.</b>	<b>575.2</b>	<b>100%</b>	<b>5,216.7</b>	<b>100%</b>	<b>11.0%</b>

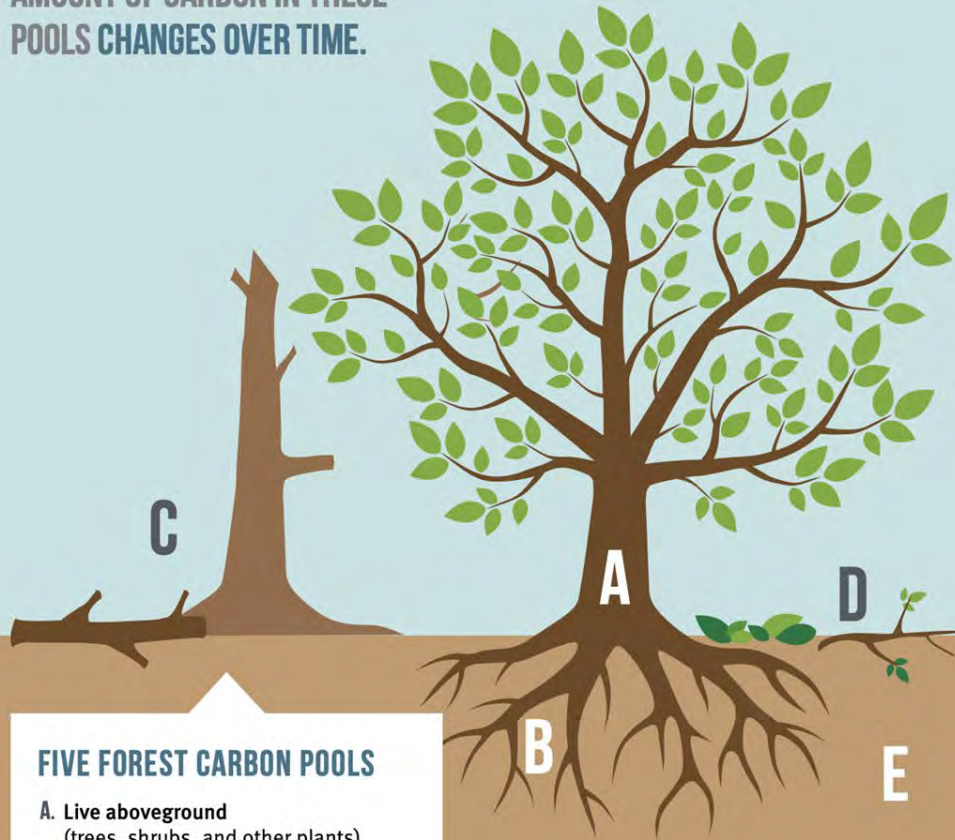
# Forests are a critical natural solution to both mitigating and adapting to the effects of climate change

Forest Ecosystem Services(FES):complementarity or competitiveness relationship



# WHERE IS CARBON STORED IN A FOREST?

A FOREST STORES CARBON IN DIFFERENT POOLS, AND THE AMOUNT OF CARBON IN THESE POOLS CHANGES OVER TIME.



## FIVE FOREST CARBON POOLS

- A. **Live aboveground**  
(trees, shrubs, and other plants)
- B. **Live belowground**  
(roots)
- C. **Deadwood**  
(standing dead trees [snags] and downed logs)
- D. **Litter**  
(leaves, needles, and small branches)
- E. **Soil organic matter**  
(organic material in the soil, such as dead and decayed biomass [e.g., plant material and insects])

Factors that influence the amount and proportion of carbon in each of these pools:

- the age of the forest
- the species of trees making up the forest
- natural and human disturbances
- soil characteristics (e.g., texture and drainage)
- past agricultural land-use history

## *Carbon Storage:*

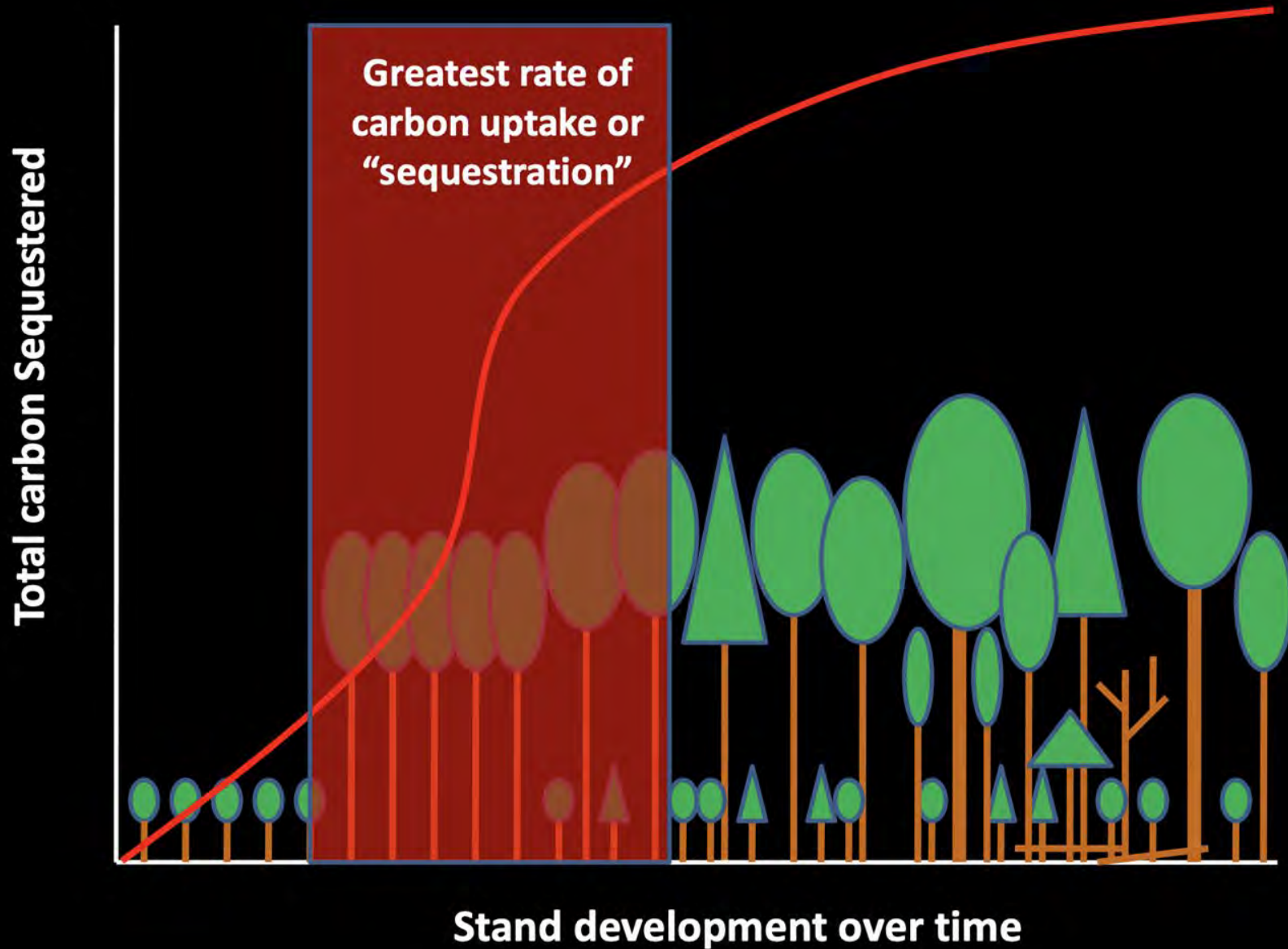
Carbon stored as biomass  
(tree trunks, roots, and leaves)

## *Carbon Sequestration:*

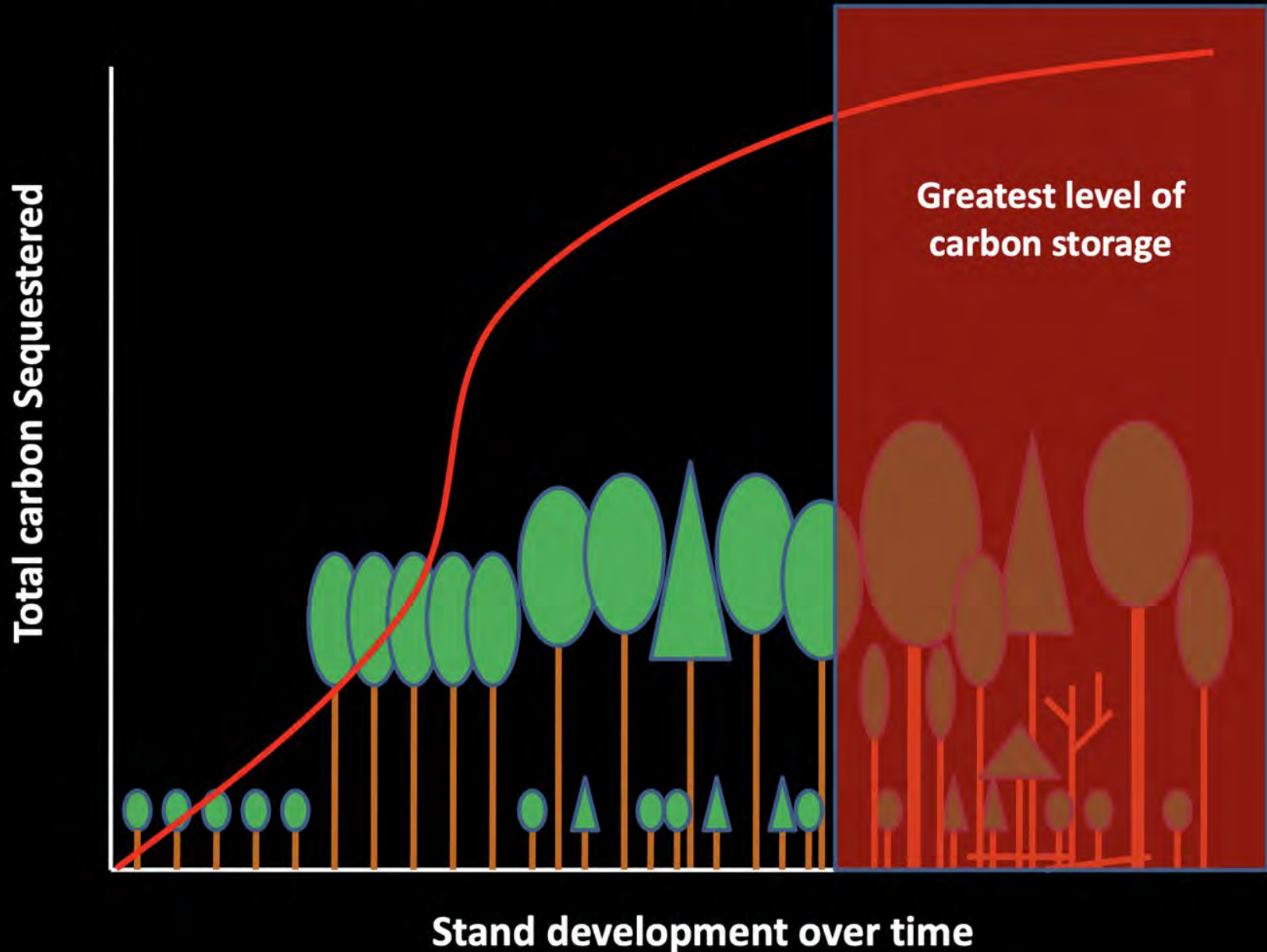
Uptake or removal of CO<sub>2</sub> from the atmosphere via photosynthetic processes



# Sequestration vs. Storage



# Sequestration vs. Storage



# Forest Carbon Works, PBC

*Supporting small landowners with technical consulting and development services for forest carbon offset projects*

**2016:** Launch of methodology and first pilot inventories

**2018:** First project verified

**2019:** Additional projects initiated

**2020:** FCW becomes a Public Benefit Corporation

**2020-2021:** Company growth and expansion throughout the U.S.

*SMALL FAMILY FOREST OWNERS MAKE UP  
39% OF FOREST OWNERSHIP IN THE U.S.*





# How Carbon Projects Work

## *Carbon Projects*

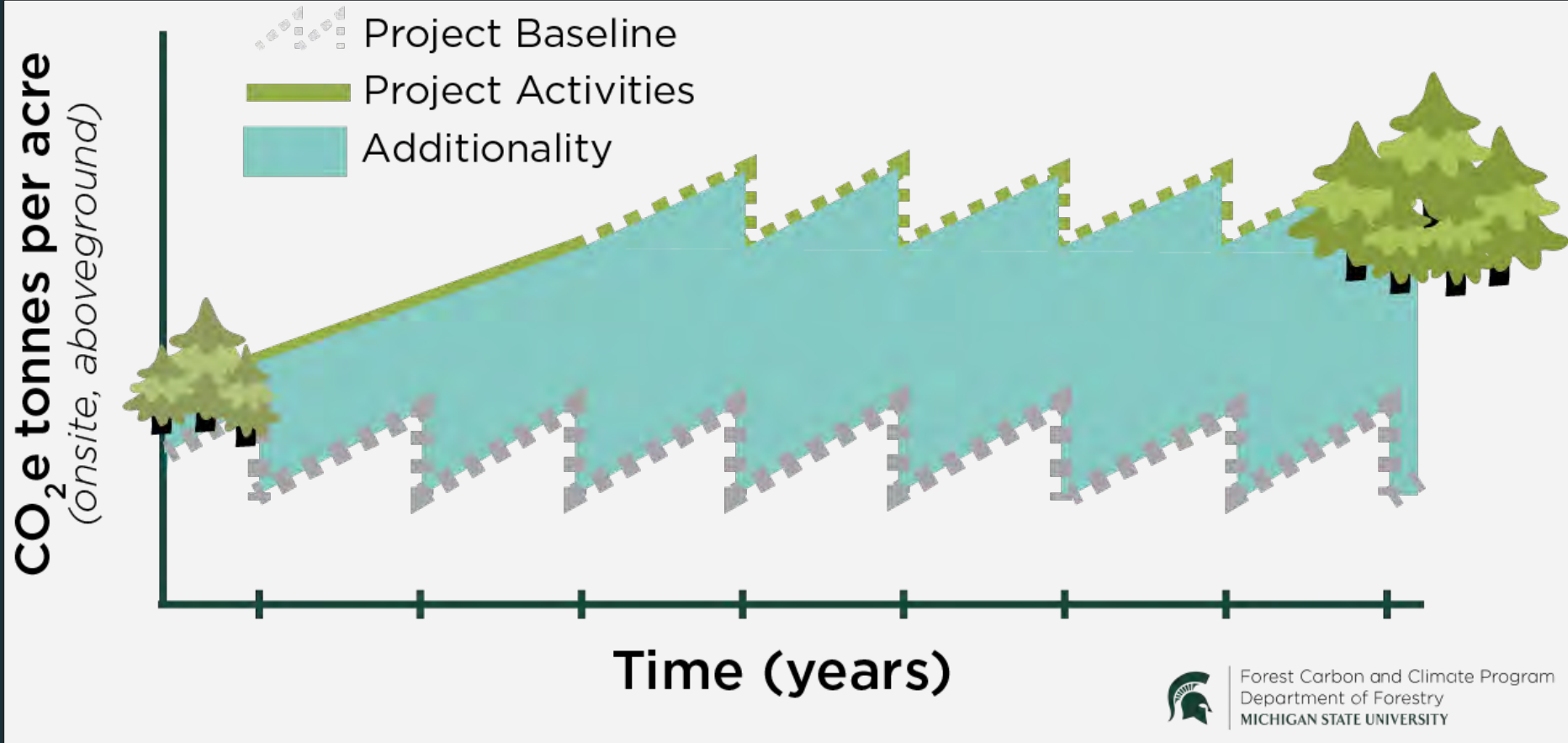
Quantified accrual of carbon in a forest area over time

## *Improved Forest Management*

Forests that accrue carbon over time, creating additionality compared to regional baselines

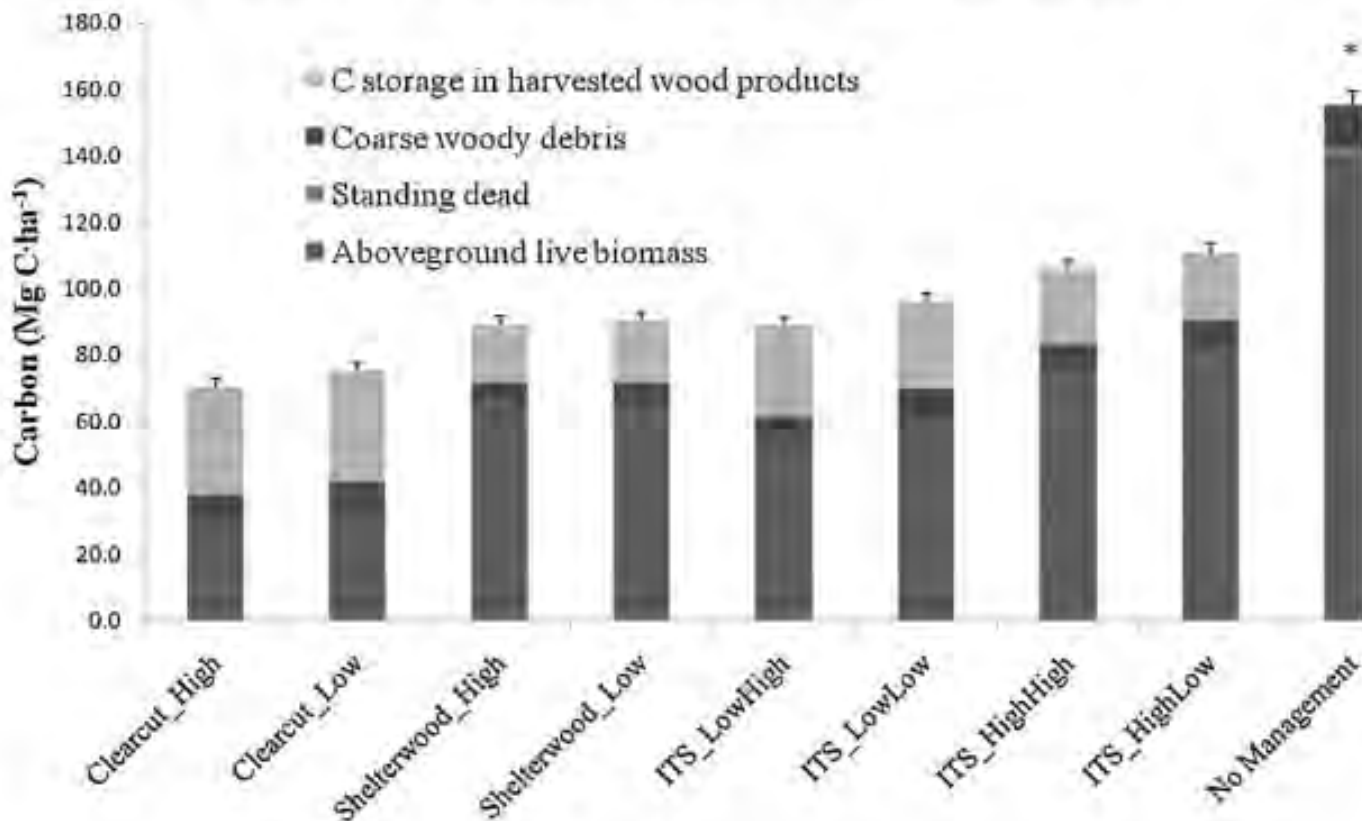


# Improved Forest Management



# Improved Forest Management For the Small Woodland Owner

*J.S. Nunery, W.S. Keeton/Forest Ecology and Management 259 (2010) 1363–1375*



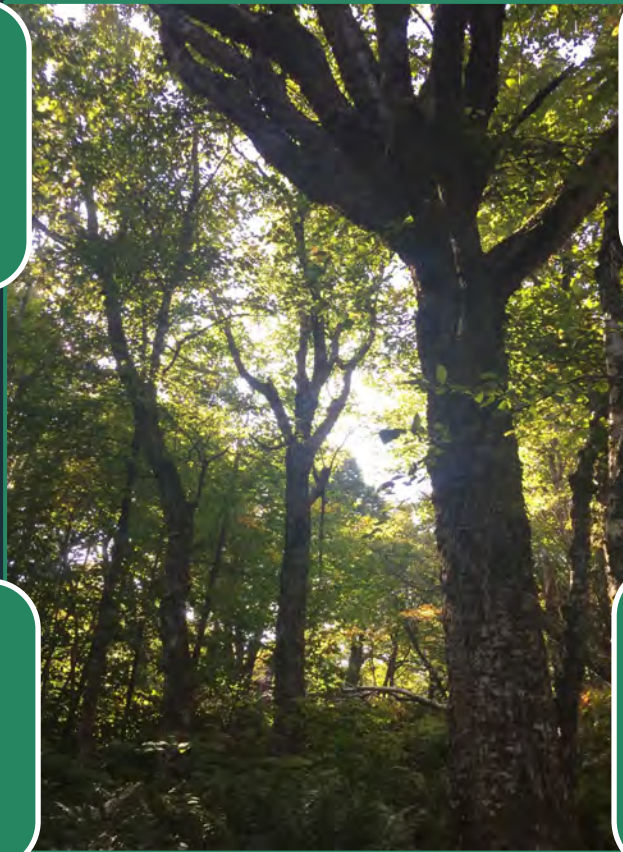
# High Value, High Quality Credits

Permanence

Value

Co-Benefits

Integrity



# Typical Barriers to Market Access for Small Landowners

## Inventory

- Different from traditional timber inventories
- Time and cost intensive

## Development

- Cost intensive
- Requires specialization (modeling, volume/biomass calculations, documentation, knowledge of methodologies/standards, navigating registries/state/marketplaces)

## Verification

- Comprehensive third-party audit
- Due to rigor of program, high costs



# FCW: Creating Better Access



Create an account at [forestcarbonworks.com](https://forestcarbonworks.com) and pay one-time application fee of \$75



Submit your property information and receive a free carbon inventory



Receive annual payments to maintain your forest

800-399-5246 • [inquire@forestcarbonworks.com](mailto:inquire@forestcarbonworks.com)



# FCW: Creating Better Access

## Minimize Costs

- Standardized platform (easy online application, \$75)
- Reduce inventory, development, and verification costs
- No major upfront costs or commitments required
- Spread fixed-costs over multiple projects in region

## Remove Complexity

- Paid per acre, per year
- Six-year renewable contracts, concurrent terms
  - FCW handles all heavy lifting
- Automated reporting to state
- Standardized prerequisites



# FCW Prerequisites & Responsibilities

## Prerequisites

- Minimum 40 acres private forest land in contiguous USA
- Must own timber rights
- Harvests must be legally allowed but not legally required
- All owners must enroll all forested ownerships

## Responsibilities

- Long-term commitment
- Provide access to FCW team & forest technicians
- Coordinate commercial harvests with FCW
- Annual reporting and periodic re-measurement

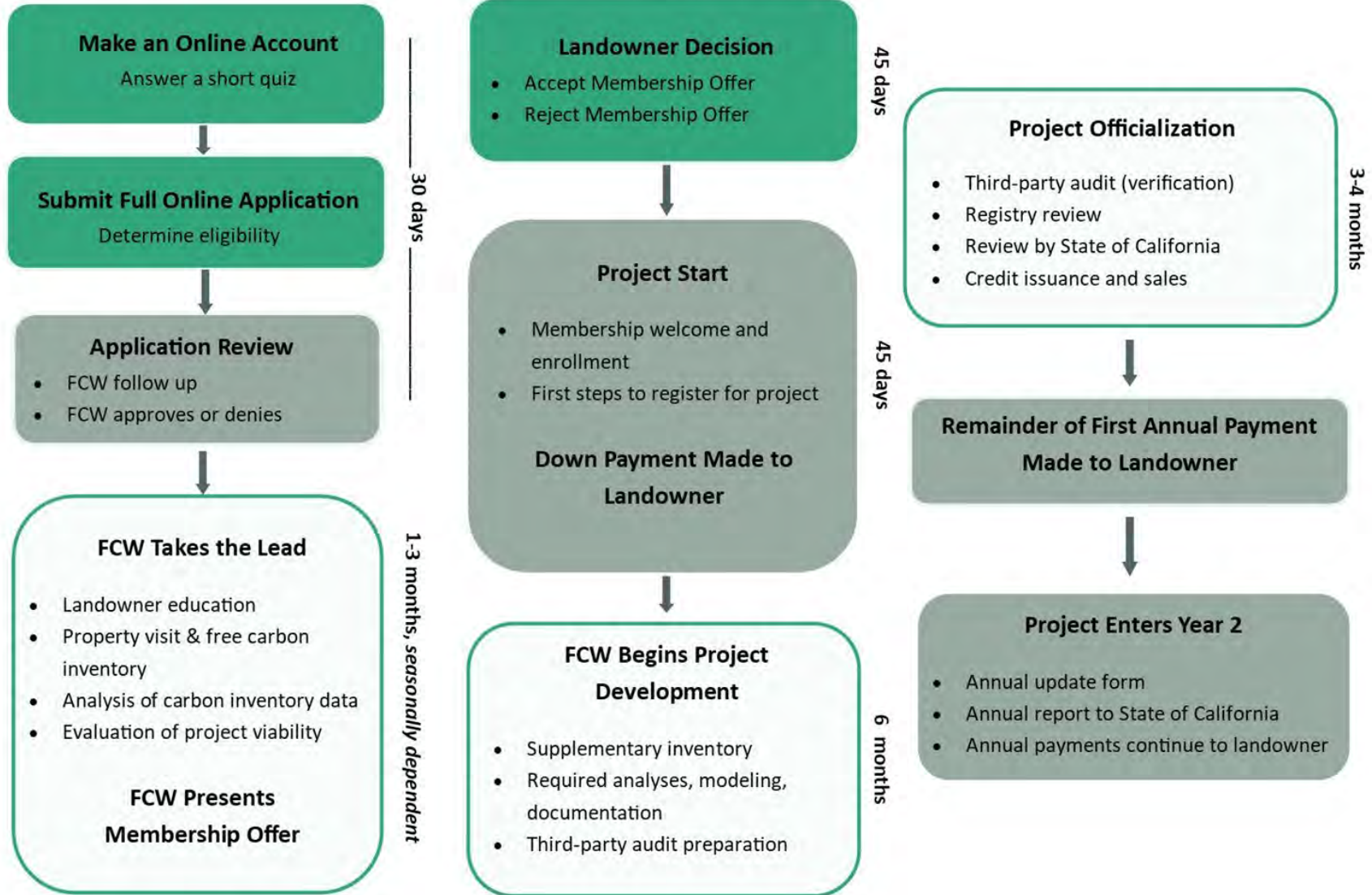




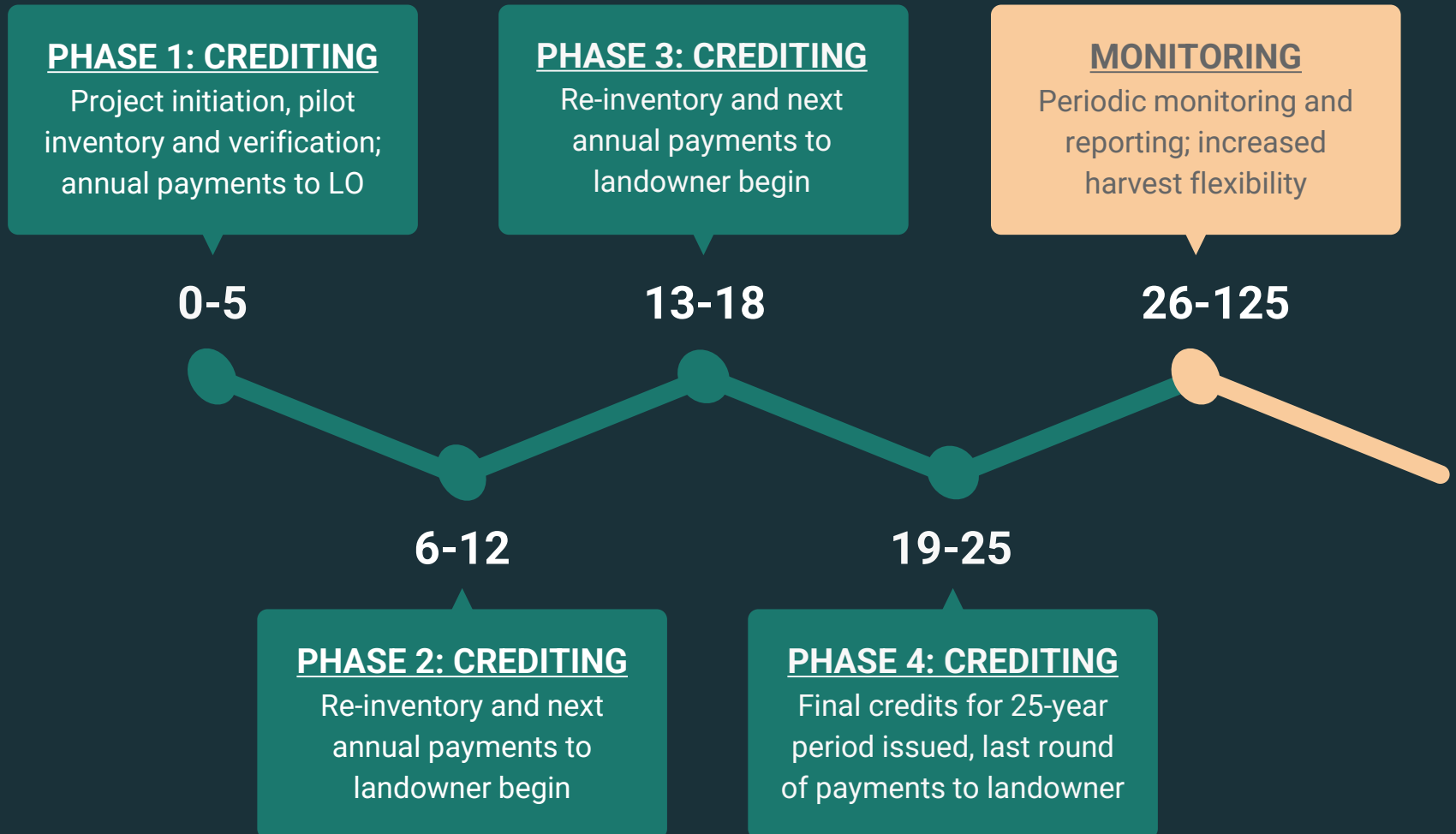


# Year 1 Timeline

*From Initial Feasibility to Accredited Project*



# Long-Term Project Timeline



# 17 States 1,700 Landowners Over 45 Carbon Projects\*

Raincloud Family Tree Farm • 117 acres, \$10,000

Rowan Family Legacy • 165 Acres, \$44,000



\* ep carbon



# Forest Carbon Works FAQs

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## Are carbon projects compatible with state tax programs?

*Yes! As long as you can fulfill the requirements of both (e.g. FMPs and harvest reqs).*

## Am I able to participate in more than one carbon program?

*NO. Your property will be INELIGIBLE for future participation in another, different carbon project as soon as you initiate a project on your property. This means even very short-term carbon projects (some as short as 1 year) will make you ineligible to do ANY OTHER projects on that same parcel.*

## What if there is a natural event like a fire or windstorm that impacts my forest - how does this affect the carbon project?

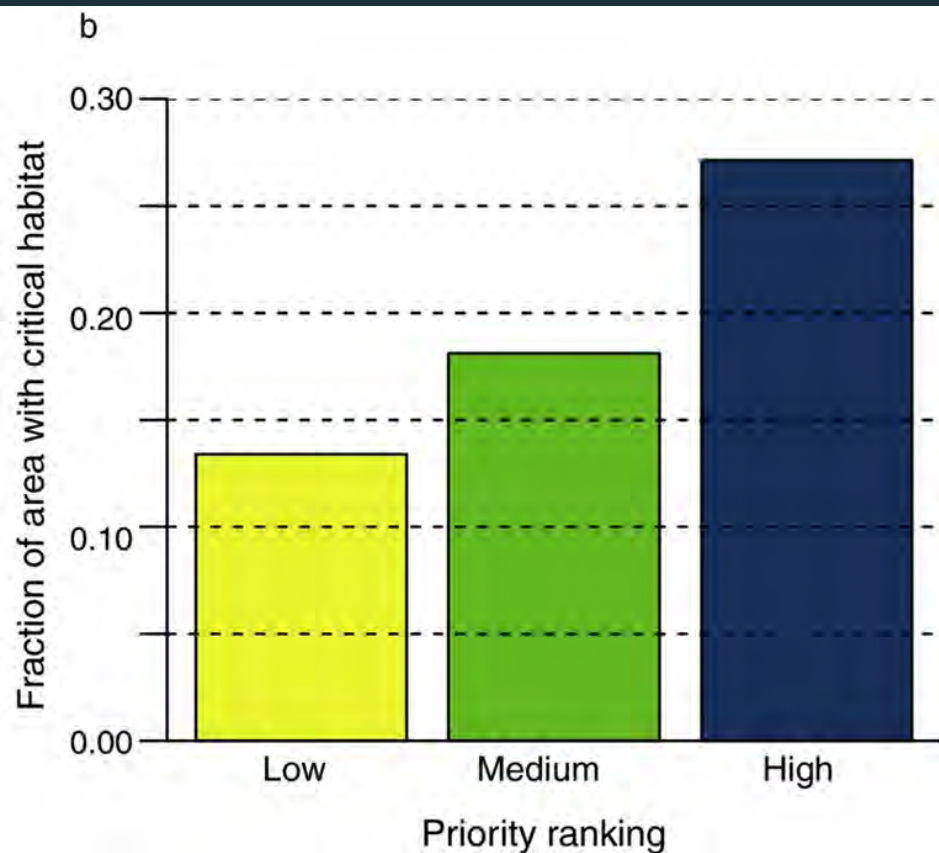
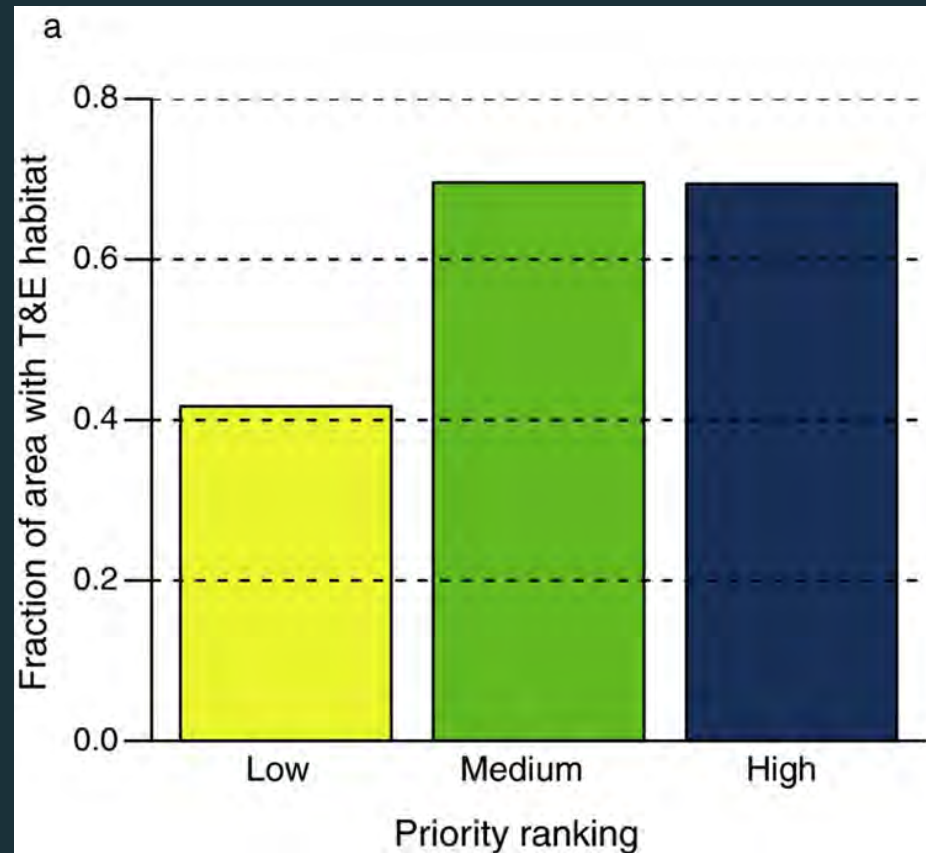
*The landowner is not responsible for the impacts from natural events on their forest lands. There is a buffer or insurance credit pool managed by the ARB. FCW will manage and facilitate utilization of the buffer pool.*



# Thank you!

Sandy Letzing  
[sandy@forestcarbonworks.com](mailto:sandy@forestcarbonworks.com)





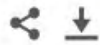
Fraction of forest in each carbon priority ranking with (a) habitat of all threatened and endangered (T&E) species designated as critical for that species survival and (b) habitat of terrestrial vertebrate species listed as threatened or endangered by the U.S. Fish and Wildlife Service.

# Change in forest cover in PNW

LEGEND

ANALYSIS

< OREGON, UNITED STATES

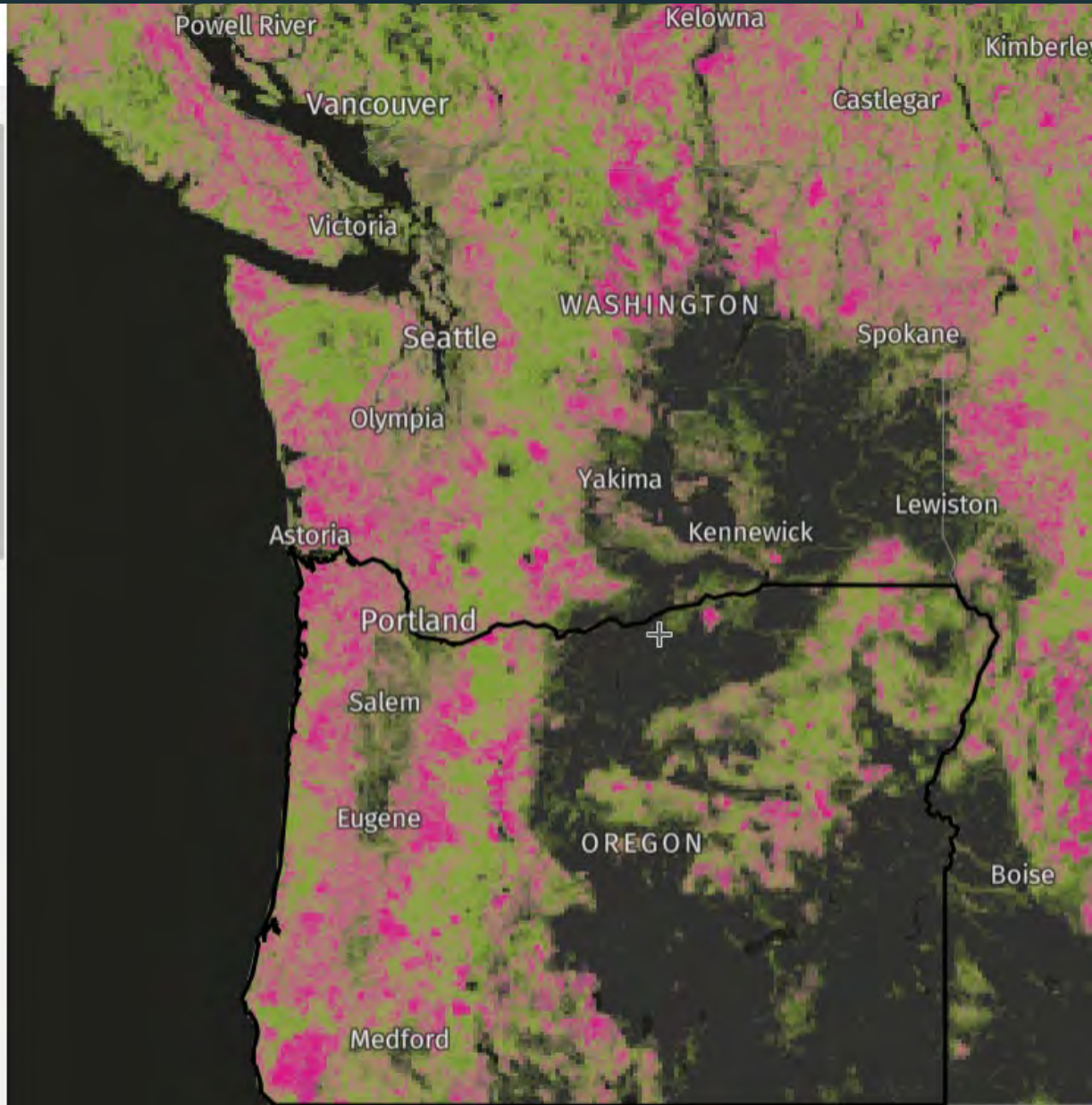


In 2010, **Oregon** had **8.70Mha** of natural forest, extending over **39%** of its land area. In **2020**, it lost **150kha** of natural forest, equivalent to **113Mt** of CO<sub>2</sub> of emissions.

## TREE COVER LOSS IN OREGON, UNITED STATES



From **2001** to **2020**, **Oregon** lost **2.00Mha** of tree cover, equivalent to a **21%** decrease in tree cover since **2000**, and **1.75Gt** of CO<sub>2</sub>e emissions.



# Why Forest Carbon Works...

## Keeping Forests Forests

Supporting long-term forest conservation  
and sustainable forest management

Providing local work opportunities

Helping small forest owners get paid for  
their stewardship efforts

Providing income to assist with long-term  
land tenureship





# Questions and Discussion

*Thank you for attending!*

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